

**IN THE CLAIMS:**

Claims 1-64. (canceled)

65. (new)      A composition comprising a chimeric nucleic acid; wherein said chimeric nucleic acid encodes a polypeptide; wherein said polypeptide comprises a first domain, a second domain, and a third domain; wherein said first domain comprises a retention signal peptide; wherein said second domain comprises a recognition site; wherein said third domain comprises a reporter molecule.
66. (new)      The composition of Claim 65, wherein said retention signal is a cellular component retention signal.
67. (new)      The composition of Claim 65, wherein said retention signal is a Golgi Apparatus retention signal.
68. (new)      The composition of Claim 67, wherein said Golgi Apparatus retention signal comprises the sequence motif KDEL (SEQ ID NO: 1).
69. (new)      The composition of Claim 67, wherein said Golgi Apparatus retention signal comprises the sequence motif NEFA (SEQ ID NO: 2).
70. (new)      The composition of Claim 65, wherein said Golgi Apparatus retention signal comprises a retention signal from Golgi glycosyltransferase.
71. (new)      The composition of Claim 70, wherein said Golgi glycosyltransferase comprises a glucosaminyltransferase I (GlcNAcTI), a beta 1,4-galactosyltransferase (GalT) or an alpha 2,6-sialyltransferase (ST).
72. (new)      The composition of Claim 65, wherein said retention signal is an Endoplasmic Reticulum retention signal.

- 73. (new)      The composition of Claim 65, wherein said protease cleavage site is positioned between said first domain and said second domain.
  
- 74. (new)      The composition of Claim 65, wherein said recognition site comprises a protease cleavage site.
  
- 75. (new)      The composition of Claim 65, wherein said recognition site comprises two protease cleavage sites.
  
- 76. (new)      The composition of Claim 74, wherein said protease cleavage site comprises a secretase cleavage site.
  
- 77. (new)      The composition of Claim 76, wherein said secretase cleavage site comprises a beta-secretase cleavage site.
  
- 78. (new)      The composition of Claim 77, wherein said beta-secretase cleavage site comprises the sequence motif SEVKMDAELF (SEQ ID NO: 3).
  
- 79. (new)      The composition of Claim 77, wherein said beta-secretase cleavage site comprises the sequence motif SEVNLD AEF (SEQ ID NO: 4).
  
- 80. (new)      The composition of Claim 76, wherein said secretase cleavage site comprises a gamma-secretase cleavage site.
  
- 81. (new)      The composition of Claim 65, wherein said reporter molecule comprises an enzyme.
  
- 82. (new)      The composition of Claim 81, wherein said enzyme comprises an alkaline phosphatase.

- 83. (new)      The composition of Claim 65, wherein said reporter molecule comprises a flurophore.
  
- 84. (new)      The composition of Claim 83, wherein said flurophore comprises a green fluorescent protein (GFP).
  
- 85. (new)      The composition of Claim 84, wherein said reporter molecule comprises a bioluminescent or a chemiluminescent polypeptide.
  
- 86. (new)      The composition of Claim 85, wherein said chemiluminescent polypeptide comprises luciferase.
  
- 87. (new)      The composition of Claim 85, wherein said bioluminescent or chemiluminescent polypeptide comprises an aequorin, an obelin, a mnemiopsin or a berovin.
  
- 88. (new)      The composition of Claim 65 further comprising a promoter; wherein said chimeric nucleic acid is operably linked to said promoter.
  
- 89. (new)      The composition of Claim 88, wherein said promoter is a constitutive promoter.
  
- 90. (new)      The composition of Claim 88, wherein said promoter is an inducible promoter.
  
- 91. (new)      The composition of Claim 65, wherein said composition is an expression vector.
  
- 92. (new)      The composition of Claim 65, wherein said composition is an expression cassette.
  
- 93. (new)      The composition of Claim 65, wherein said composition is a transformed host cell.

94. (new)      The composition of Claim 93, wherein said transformed host cell is selected from the group consisting of a bacterial cell, a mammalian cell, a yeast cell, an insect cell, and a plant cell.
95. (new)      A kit comprising the composition of Claim 65, and instructions for use.
96. (new)      The kit of Claim 95, further comprising a substrate for said bioluminescent polypeptide, said chemiluminescent polypeptide, or said alkaline phosphatase.